Writing Best Practices: Introductions and Conclusions

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2011 Best Practices Presentation
Recap – Objectives

- To understand the importance of writing best practices for the purposes of communicating results to other scientists and engineers.
- To identify common features in good scientific writing, with emphasis on clarity and style over strict grammatical accuracy, through examples.
- To identify and correct common mistakes made by second language writers.
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Why is this important?

- Communication of our results to the wider community is important so that our contribution is shared.
- Writing in English is the internationally established method for communication.
- More people will read one’s paper if it is well written.
- One’s efforts and achievements will be properly acknowledged by the university and the wider community.
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Features of Good Technical Writing

- Strongly focused – be clear on whom the intended audience is and what it is one is trying to communicate.

- Technical papers include both objective and subjective elements. The introduction, discussion and conclusion contain the subjective parts.

- Always should have a clear structure. Always have a title, an abstract and numbered headings for the rest.
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Tone

- **Style –** Scientific English is not the same as Literary English. Clarity is more important than Elegance.

- Avoid sounding pompous or self-important.

- Hedging – Modesty and caution are important.

- One’s work may not use the best approach or may not be conclusive. Strong language opens one’s work to attack and refutation.
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Hedging Devices

- When criticizing others’ work or promoting one’s own.
- Words/phrases to use: is unlikely, seems to be, seems to suggest, suggests that, may be.
- Hedged verbs/verbal phrases: suggests that, seems to suggest, suggests, indicates, indicates that.
- Adverbs: probably, is unlikely, likely, possibly.
- Adjectives: likely, unlikely, possibly.
- Modal verbs: may (be).
- Modal nouns: probability.
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The Introduction

- Convince reader why this work was done.
- What was the context?
- What was the previous work done in this area?
- Move from general context to a focused discussion on the work described by the report.
- Include Signposting.
- One of the most important parts of the paper, to retain readers’ interest.
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- **Explain lessons can be drawn from one’s results.**
- Unlikely that the work will be totally conclusive – explain what the firm conclusions are.
- What further work or possibilities are suggested from this work?
- Discuss potential errors and room for improvement.
- What further work can be done?
- In the conclusions section, summarize what has been found or achieved, and what it is that is left to learn or achieve.
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- Summarize main findings or achievements.
- Explain one’s contribution.
- State the limitations of the work.
- Suggestions for further research.

If the work is complicated, state the facts first in a section, then discuss the claims.
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The Conclusion – Language Features

- Use of Subordination – i.e. main and subordinate clauses.
- Clause of concession.
- Although *Main Clause, Subordinate Clause.*
- Despite *Main Clause,* we found that *Subordinate Clause.*
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Other General Points

- Use active voice. Passive voice is safe, but sounds boring.
- Better yet, vary both tense and voice.
- Use “we.”
- Reread and simplify structure if possible. Use common words over obscure words, except where there is no alternative.
- For long sentences, be careful about noun-verb agreement.
- Articles. “The”, “a.”
- The word “Literature.”
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“The image under a microlens dictates the directional resolution of the system for that location on the film. To maximize the directional resolution, we want the sharpest microlens images possible. This means that we should focus the microlenses on the principal plane of the main lens...” – Ren Ng
References

- Collins Good Grammar - Graham King.
- Dissertation Writing in Practice: Turning Ideas into Text - Linda Cooley and Jo Lewkowicz.
- Keeping Laboratory Notes and Writing Formal Reports - R D E Saunders, Cavendish Laboratory, 2006.
Suggested Reading

- Google “noun verb agreement” or “subject verb agreement.” Many good resources are available.
- If you can understand (I do not, fully), *The King’s English - Fowler & Fowler*, http://www.bartleby.com/116/. It consists mainly of corrections to common mistakes made by first language writers.